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COUSO, JOSE L	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/550,889	DIEDERICHS ET AL.	
	Examiner	Art Unit	
	Jose L. Couso	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-81* is/are pending in the application.

4a) Of the above claim(s) *7,8 and 70* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-6 and 9-32* is/are rejected.

7)☒ Claim(s) *33-69 and 71-81* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/27/05,12/27/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. Claims 7-8 and 70 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from another multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims 7-8 and 70 not been further treated on the merits.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-6, 9-10 and 13-15 are rejected under 35 U.S.C. 102(e) as being anticipated by Shiotani et al. (U.S. Patent No. 7,113,620).

With regard to claim 1, Shiotani describes wherein a color image is recorded by means of an electronic image sensor of at least the identifying characteristic wherein at least one first electrical signal which is correlated with the color image is made directly or indirectly available by the image sensor, wherein an evaluating device, which is connected with the image sensor, evaluates the first electrical signal, wherein a second electrical signal is obtained from at least one reference image and is stored in a data memory, wherein the second electrical signal has a reference variable of at least two different properties of the reference image for the first electrical signal, wherein the first

signal is compared with at least two of the reference variables contained in the second electrical signal, wherein during the comparison at least the color image of the identifying characteristic is checked for a deviation from the reference image, and the identifying characteristic is checked regarding its association with a defined class of identifying characteristics, or a defined geometric contour or a relative arrangement in respect to at least one further identifying characteristic of the material, characterized in that the checks take place during a running printing process of a printing press, or a running work process of a machine processing the material (see figure 1 and refer for example to column 3, line 4 through column 5, line 5).

As to claim 2, Shiotani describes wherein a color image is recorded by means of an electronic image sensor of at least the identifying characteristic, wherein at least one first electrical signal which is correlated with the color image is made directly or indirectly available by the image sensor, wherein an evaluating device, which is connected with the image sensor, evaluates the first electrical signal, wherein a second electrical signal is obtained from at least one reference image and is stored in a data memory, wherein the second electrical signal has a reference variable of at least two different properties of the reference image for the first electrical signal, wherein the first signal is compared with at least two of the reference variables contained in the second electrical signal, wherein during the comparison at least the color image of the identifying characteristic is checked for a deviation from the reference image, and the identifying characteristic is checked regarding its association with a defined class of identifying characteristics, or a defined geometric contour or a relative arrangement in

respect to at least one further identifying characteristic of the material, characterized in that at least two of the checks take place independently of each other in parallel extending check processes (see figure 1 and refer for example to column 3, line 4 through column 5, line 5).

In regard to claim 3, Shiotani describes wherein a color image is recorded by means of an electronic image sensor of at least the identifying characteristic, wherein at least one first electrical signal which is correlated with the color image is made directly or indirectly available by the image sensor, wherein an evaluating device, which is connected with the image sensor, evaluates the first electrical signal, wherein a second electrical signal is obtained from at least one reference image and is stored in a data memory, wherein the second electrical signal has a reference variable of at least two different properties of the reference image for the first electrical signal, wherein the first signal is compared with at least two of the reference variables contained in the second electrical signal, wherein during the comparison at least the color image of the identifying characteristic is checked for a deviation from the reference image, and the identifying characteristic is checked regarding its association with a defined class of identifying characteristics, or a defined geometric contour or a relative arrangement in respect to at least one further identifying characteristic of the material, characterized in that the checks of the color image take place on the basis of the reference image stored in the data memory, which is part of the evaluating device, in the course of a learning mode of the evaluating device, by means of the evaluating device after it has changed

from its learning mode into a working mode (see figure 1 and refer for example to column 3, line 4 through column 5, line 5).

With regard to claim 4, Shiotani describes characterized in that the checks take place during a running printing process of a printing press, or a running work process of a machine processing the material (Shiotani clearly states, in column 1, lines 10-15, that the apparatus is for evaluating the quality of a printed image. This printed image is checked with a reference image in real time).

As to claim 5, Shiotani describes that at least two of the checks take place independently of each other in parallel extending check processes (see figure 1, elements 15 and 18).

In regard to claim 6, Shiotani describes that the checks of the color image take place on the basis of the reference image stored in the data memory, which is part of the evaluating device, in the course of a learning mode of the evaluating device, by means of the evaluating device after it has changed from its learning mode into a working mode (refer for example to column 3, line 59 through column 4, line 9).

With regard to claim 9, Shiotani describes characterized in that the evaluation of the material is performed for the control of its quality (refer for example to column 6, lines 54-60).

As to claim 10, Shiotani describes that the material is a bill or a stamp (see for example figure 5).

In regard to claim 13, Shiotani that the position of the identifying characteristic varies within an expected range defined by tolerance limits (refer for example to column 4, lines 7-9).

With regard to claim 14, Shiotani describes that the image sensor has several light-sensitive pixels (refer for example to column 3, lines 29-30).

As to claim 15, Shiotani describes that a first electrical signal is made available for every pixel (refer for example to column 3, lines 29-30).

4. Claims 1-6, 9-10 and 13-32 are rejected under 35 U.S.C. 102(b) as being anticipated by Saitoh et al. (U.S. Patent No. 6,272,248).

With regard to claim 1, Saitoh describes wherein a color image is recorded by means of an electronic image sensor of at least the identifying characteristic wherein at least one first electrical signal which is correlated with the color image is made directly or indirectly available by the image sensor, wherein an evaluating device, which is connected with the image sensor, evaluates the first electrical signal, wherein a second electrical signal is obtained from at least one reference image and is stored in a data memory, wherein the second electrical signal has a reference variable of at least two different properties of the reference image for the first electrical signal, wherein the first signal is compared with at least two of the reference variables contained in the second electrical signal, wherein during the comparison at least the color image of the identifying characteristic is checked for a deviation from the reference image, and the

identifying characteristic is checked regarding its association with a defined class of identifying characteristics, or a defined geometric contour or a relative arrangement in respect to at least one further identifying characteristic of the material, characterized in that the checks take place during a running printing process of a printing press, or a running work process of a machine processing the material (see figure 6 and refer for example to column 20, lines 11-29).

As to claim 2, Saitoh describes wherein a color image is recorded by means of an electronic image sensor of at least the identifying characteristic, wherein at least one first electrical signal which is correlated with the color image is made directly or indirectly available by the image sensor, wherein an evaluating device, which is connected with the image sensor, evaluates the first electrical signal, wherein a second electrical signal is obtained from at least one reference image and is stored in a data memory, wherein the second electrical signal has a reference variable of at least two different properties of the reference image for the first electrical signal, wherein the first signal is compared with at least two of the reference variables contained in the second electrical signal, wherein during the comparison at least the color image of the identifying characteristic is checked for a deviation from the reference image, and the identifying characteristic is checked regarding its association with a defined class of identifying characteristics, or a defined geometric contour or a relative arrangement in respect to at least one further identifying characteristic of the material, characterized in that at least two of the checks take place independently of each other in parallel

extending check processes (see figure 6 and refer for example to column 20, lines 11-29).

In regard to claim 3, Saitoh describes wherein a color image is recorded by means of an electronic image sensor of at least the identifying characteristic, wherein at least one first electrical signal which is correlated with the color image is made directly or indirectly available by the image sensor, wherein an evaluating device, which is connected with the image sensor, evaluates the first electrical signal, wherein a second electrical signal is obtained from at least one reference image and is stored in a data memory, wherein the second electrical signal has a reference variable of at least two different properties of the reference image for the first electrical signal, wherein the first signal is compared with at least two of the reference variables contained in the second electrical signal, wherein during the comparison at least the color image of the identifying characteristic is checked for a deviation from the reference image, and the identifying characteristic is checked regarding its association with a defined class of identifying characteristics, or a defined geometric contour or a relative arrangement in respect to at least one further identifying characteristic of the material, characterized in that the checks of the color image take place on the basis of the reference image stored in the data memory, which is part of the evaluating device, in the course of a learning mode of the evaluating device, by means of the evaluating device after it has changed from its learning mode into a working mode (see figure 6 and refer for example to column 20, lines 11-29).

With regard to claim 4, Saitoh describes characterized in that the checks take place during a running printing process of a printing press, or a running work process of a machine processing the material (refer for example to column 21, lines 10-15).

As to claim 5, Saitoh describes that at least two of the checks take place independently of each other in parallel extending check processes (see figure 7, elements S1201 and S1102).

In regard to claim 6, Saitoh describes that the checks of the color image take place on the basis of the reference image stored in the data memory, which is part of the evaluating device, in the course of a learning mode of the evaluating device, by means of the evaluating device after it has changed from its learning mode into a working mode (see figure 6 and refer for example to column 20, lines 11-29).

With regard to claim 9, Saitoh describes characterized in that the evaluation of the material is performed for the control of its quality (refer for example to column 77, lines 28-43).

As to claim 10, Saitoh describes that the material is a bill or a stamp (see for example figure 3).

In regard to claim 13, Saitoh describes that the position of the identifying characteristic varies within an expected range defined by tolerance limits (refer for example to column 25, lines 5-15).

With regard to claim 14, Saitoh describes that the image sensor has several light-sensitive pixels (refer for example to column 28, lines 18-23).

As to claim 15, Saitoh describes that a first electrical signal is made available for every pixel (refer for example to column 78, lines 9-14).

In regard to claim 16, Saitoh describes that the first electrical signal has been divided onto several signal channels (R, G, B) (see figure 60, element 9108 and refer for example to column 24, lines 63-67).

With regard to claim 17, Saitoh describes that the first electrical signal is an RGB signal, so that every signal channel (R, G, B) makes available a portion of the first signal corresponding to one of the three basic colors red, green and blue (see figure 60, element 9108 and refer for example to column 78, lines 50-55).

As to claim 18, Saitoh describes that the spectral sensitivity in each signal channel (R, G, B) is set to a defined spectral sensitivity of the human eye (refer for example to column 78, lines 22-25).

In regard to claim 19, Saitoh describes that in regard to hue, fullness and brightness the first signal is matched to the color perception of the human eye (see figure 60, element 9108 and refer for example to column 48, lines 5-10).

With regard to claim 20, Saitoh describes that the check of the color image for a deviation of the color image from the reference image takes place in that the portion of the first signal which is a part of the color image made available in the first signal

channel is linked by means of a first calculation prescription with the portion made available in the second signal channel, by means of which an output signal of a first compensation color channel is generated, that the portion of the first signal which is a part of the color image made available in the third channel is linked by means of a second calculation prescription with the portion in the first and second signal channels, by means of which an output signal of a second compensation color channel is generated, and that the output signals of the compensation color channels are classified by means of a comparison with reference variables (refer for example to column 79, lines 7-19).

As to claim 21, Saitoh describes that the output signal of each compensation color signal is stored in the data memory (refer for example to column 80, lines 4-15).

In regard to claim 22, Saitoh describes that the first calculation prescription provides a weighted difference formation of the portion of the first electrical signal made available in the second signal channel from the corresponding portion in the first signal channel, and/or the second calculation prescription provides a weighted difference formation of the weighted sum of the portions in the first and second signal channel from the corresponding portion in the third signal channel (refer for example to column 81, line 46 through column 82, line 6).

With regard to claim 23, Saitoh describes that at least one of the portions of the first electrical signal made available in the signal channels (R, G, B) is subjected to a

transformation by means of a calculation prescription prior to and/or following their linkage (refer for example to column 89, lines 18-41).

As to claim 24, Saitoh describes characterized in that a non-linear transformation is used (refer for example to column 89, lines 18-41).

In regard to claim 25, Saitoh describes that each one of the portions of the first electrical signal which is taken into consideration during a linkage is weighted with a coefficient prior to and/or after the transformation (refer for example to column 89, lines 18-41).

With regard to claim 26, Saitoh describes that the output signal of at least one compensation color channel is filtered by means of a low pass filter (refer for example to column 109, lines 1-3).

As to claim 27, Saitoh describes that the low pass filter is designed as a Gauss low pass filter (refer to column 109, lines 1-3).

In regard to claim 28, Saitoh describes that in the learning mode the output signals of the two compensation color channels produced by at least one reference image are stored as reference variables in the data memory, and wherein in the working mode the output signals from the two compensation color channels generated by the identifying characteristic to be checked are compared with the reference variables stored in the data memory (refer for example to column 82, lines 7-25).

With regard to claim 29, Saitoh describes that the comparison of the output signals, of the two compensation color channels generated by the identifying characteristic to be checked with the reference variables stored in the data memory takes place for each pixel of the image sensor (refer to column 82, lines 7-25).

As to claim 30, Saitoh describes that the reference variables stored for each pixel in the data memory are generated by storing the output signals from several reference images, by means of which a tolerance window is defined for the reference variables (refer for example to column 92, lines 24-47).

In regard to claim 31, Saitoh describes that the classification of the output signals of the compensation color channels is performed by means of a classification system (refer for example to column 79, lines 7-19).

With regard to claim 32, Saitoh describes that linear and/or non-linear classification systems, threshold value classification devices, Euclidic distance classification devices, Bayes classification devices, fuzzy classification devices or artificial neuronal networks are employed (refer for example to column 78, lines 51-64).

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiotani et al. (U.S. Patent No. 7,113,620) in view of Haller (U.S. Patent No. 6,558,054).

The arguments advanced in section 3 above, as to the applicability of Shiotani, are incorporated herein.

Although Shiotani does not expressly describe that the material is designed as a printed sheet and is moved past the image sensor at a speed of up to 18,000 printed sheets, such a material and techniques are well known and widely utilized in the prior art.

Haller discloses a method for manufacturing printing products which describes that the material is designed as a printed sheet and is moved past the image sensor at a speed of up to 18,000 printed sheets (refer for example to column 10, lines 54-67) .

Given the teachings of the two references and the same environment of operation, namely that of analyzing printed sheets, one of ordinary skill in the art at the time the invention was made would have been led in an obvious fashion to provide for that the material is designed as a printed sheet and is moved past the image sensor at a speed of up to 18,000 printed sheets as taught by Haller in the Shiotani system since both systems are primarily concerned with analyzing printed sheets. This is an engineering design, providing for increased processing speed as suggested by Haller (refer for example to column 1, lines 56-58), which fails to patentably distinguish over the prior art absent some novel and unexpected result.

7. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiotani et al. (U.S. Patent No. 7,113,620) in view of Fujita et al. (U.S. Patent No. 6,960,036).

The arguments advanced in section 3 above, as to the applicability of Shiotani, are incorporated herein.

Although Shiotani does not expressly describe that the material is embodied as a web of material and is moved past the image sensor at a speed of up to 15 m/s, such material and techniques are well known and widely utilized in the prior art.

Fujita et al. discloses a printing apparatus which describes that the material is embodied as a web of material and is moved past the image sensor at a speed of up to 15 m/s (refer for example to column 27, lines 35-39).

Given the teachings of the two references and the same environment of operation, namely that of analyzing printed sheets, one of ordinary skill in the art at the time the invention was made would have been led in an obvious fashion to provide for the material to be embodied as a web of material and moved past the image sensor at a speed of up to 15 m/s as taught by Fujita in the Shiotani system since both systems are primarily concerned with analyzing printed sheets. This is an engineering design, providing for increased processing speed as suggested by Fujita (refer for example to column 1, lines 40-44), which fails to patentably distinguish over the prior art absent some novel and unexpected result.

8. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saitoh et al. (U.S. Patent No. 6,272,248) in view of Haller (U.S. Patent No. 6,558,054).

The arguments advanced in section 4 above, as to the applicability of Saitoh, are incorporated herein.

Although Saitoh does not expressly describe that the material is designed as a printed sheet and is moved past the image sensor at a speed of up to 18,000 printed sheets, such a material and techniques are well known and widely utilized in the prior art.

Haller discloses a method for manufacturing printing products which describes that the material is designed as a printed sheet and is moved past the image sensor at a speed of up to 18,000 printed sheets (refer for example to column 10, lines 54-67) .

Given the teachings of the two references and the same environment of operation, namely that of analyzing printed sheets, one of ordinary skill in the art at the time the invention was made would have been led in an obvious fashion to provide for that the material is designed as a printed sheet and is moved past the image sensor at a speed of up to 18,000 printed sheets as taught by Haller in the Saitoh system since both systems are primarily concerned with analyzing printed sheets. This is an engineering design, providing for increased processing speed as suggested by Haller (refer for example to column 1, lines 56-58), which fails to patentably distinguish over the prior art absent some novel and unexpected result.

9. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saitoh et al. (U.S. Patent No. 6,272,248) in view of Fujita et al. (U.S. Patent No. 6,960,036).

The arguments advanced in section 4 above, as to the applicability of Saitoh, are incorporated herein.

Although Saitoh does not expressly describe that the material is embodied as a web of material and is moved past the image sensor at a speed of up to 15 m/s, such material and techniques are well known and widely utilized in the prior art.

Fujita et al. discloses a printing apparatus which describes that the material is embodied as a web of material and is moved past the image sensor at a speed of up to 15 m/s (refer for example to column 27, lines 35-39).

Given the teachings of the two references and the same environment of operation, namely that of analyzing printed sheets, one of ordinary skill in the art at the time the invention was made would have been led in an obvious fashion to provide for the material to be embodied as a web of material and moved past the image sensor at a speed of up to 15 m/s as taught by Fujita in the Saitoh system since both systems are primarily concerned with analyzing printed sheets. This is an engineering design, providing for increased processing speed as suggested by Fujita (refer for example to column 1, lines 40-44), which fails to patentably distinguish over the prior art absent some novel and unexpected result.

10. Claims 33-69 and 71-81 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Forslund, Katoh et al., Yamagata et al., Duvdevani et al. all disclose systems similar to applicant's claimed invention.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jose L. Couso whose telephone number is (571) 272-7388. The examiner can normally be reached on Monday through Friday from 6:30 to 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella, can be reached on (571) 272-7778. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jose L. Couso/
Primary Examiner, Art Unit 2624
June 25, 2008